GOVERNMENT OF ANDHRA PRADESH
ABSTRACT

RWS &S – NTR Sujala Pathakam – Implementation of NTR Sujala Pathakam with 20% contribution from NGOs – Policy Guidelines – Issued – Reg

---

PANCHAYAT RAJ & RURAL DEVELOPMENT (RWS.II) DEPARTMENT

G.O.MS.No. 65 Dated: 21-02-2019

Read the following:

1. G.O.Ms.No.127, PR &RD (RWS.II) Dept., 30.08.2014.
2. From the Engineer-in-Chief, RWS &S, Lr.No. PRR06 -14/111/2018 – NTR Sujala SEC- ECRRWSS, dt.06.12.2018.

>>>><<<<

ORDER:

Government have taken a policy decision to implement NTR Sujala Pathakam to provide potable water of 20 ltrs for Rs.2.00 to each household. Accordingly, Government has issued guidelines vide reference 1st read above and 826 rural habitations have been covered with water treatment plants. These plants are mostly smaller plants with a capacity of 500 to 1000 ltrs per hour.

2. On the other hand, a central large scale model of water treatment plant is tried out at Kuppam for about 11 habitations in and around Kuppam. This plant is meant for supplying 1.00 lakh liters of purified water at 20 distribution points. Also bids were called for 17 packages in 103 Clusters by RWS & S Department (Sanctioned GO to be put in reference). The bids were called for the packages multiple times and the successful bidder was identified after multiple bids .

3. In the reference 2nd read above, the Engineer-in-Chief, RWS &S has requested to accord permission to implement NTR Sujala Pathakam in Krishna District with 20% contribution from TATA Trusts through Vijayavahini Charitable Foundation (VCF) by contributing 20% of the project cost (ECV) under CSR with 80% fund support from the State Government and additional resources support like land allocations, water sources, subsidized electricity, Tax and Duty exemptions, Tata Trusts/VCF brandings, application clearances from the department etc and to operate the plant for a period of 5 years and any additional expenditure need to be incurred due to cost escalations will be taken care by the organization.

4. Government, after careful examination of the proposal of the Engineer-in- Chief, RWS & S, hereby issue the annexed policy guidelines for implementation of NTR Sujala Pathakam with 20% of the project cost (ECV) from NGOs with 80% fund support from the State Government.

5. The Engineer-in-Chief, RWS &S shall take further necessary action for ensuring quality, quantity, and power consumption are connected to IOT devices and are linked to minister dashboard.

6. A copy of this order is available on the Internet can be accessed at www.ap.gov.in/goir.ap.gov.in

(BY ORDER AND IN THE NAME OF THE GOVERNOR OF ANDHRA PRADESH)

DR.K.S.JAWAHAR REDDY
PRINCIPAL SECRETARY TO GOVERNMENT

To
The Engineer-in-Chief, RWS &S, A.P, Vijayawada
Copy to
The OSD to Minister (PR,RD, IT E & C)
The PS to Principal Secretary to Government (PR &RD)
Sf/Sc

//FORWARDED BY ORDER//

SECTION OFFICER

(Annexure - Policy Guidelines)

POLICY GUIDELINES FOR SETTING UP OF WATER FILTRATION, PURIFICATION AND SUPPLY FACILITIES TO PROVIDE SAFE DRINKING WATER TO THE PUBLIC IN THE STATE OF ANDHRA PRADESH

Preamble:

This document is prepared as a guiding framework for the approval and set-up of water filtration, purification and supply facilities (henceforth termed as **Water Plants**) to provide safe drinking water to the people of Andhra Pradesh with service oriented motive on non- profit basis. This framework is applicable for Individuals, Groups, Community Based Organizations, Non-Governmental Organizations, Corporates, Private Institutions, Trusts, any other Non-Governmental Entities and Government bodies or Agencies other than the Rural Water Supply Department of Andhra Pradesh. These guidelines supersede any other guidelines issued so far by the State Government of Andhra Pradesh pertaining to Water Plants.

It has been observed that over the last many years various stakeholders like Individuals, Groups, Community Based Organizations, Non- Governmental Organizations, Corporates, Private Institutions, Trusts, any other non-governmental entities and government bodies or agencies (henceforth termed as **Water Plant Providers**) have come forward in good faith to set up Water Plants with the primary objective of providing processed safe drinking water to the public of Andhra Pradesh. However, it has been noted that many of these Water Plants are unable to meet the primary objective of providing safe drinking water for a variety of reasons.
These reasons include:

a. lack of financial sustainability in running Water Plants resulting in dead units and sunken costs in terms of resources;
b. unscientific way of choosing the Water Plant locations resulting in needless
competition, drying of water source and negative impact on the environment;
c. absence of accountability structures to monitor and evaluate the operations and health of the Water Plant resulting in low quality unsafe water supply and reject water polluting the groundwater table;
d. non-availability of qualified manpower and timely technical support resulting in significant downtime of plants and/or even closure.
e. unscientific way of choosing water purification technology in contravention to the guidelines prescribed by the Government of India in the National Rural Drinking Water Programme

Overall it can be said that there is a lot of enthusiasm in setting up the Water Plants by the Water Plant Providers as a service to the public, but sustainably running them over a long period of time is increasingly becoming the significant challenge. It has thus been noted that significant resources (time, energy and investment) of the Water Plant Providers, that have come into the state of Andhra Pradesh with an objective to serve the public by providing safe affordable drinking water, have either been underutilized or mis-utilized. This defeats the core purpose of setting up Water Plants as a service to provide safe drinking water to the public. Moreover, it has to be noted that majority of Water Plants are using significant public resources, like source water, subsidized power and government land and label themselves as public service. This scenario necessitates for the Government to develop stringent overarching guidelines in the interest of larger public safety, environmental protection and for the longer term effective utilization of the resources to be brought in by the Water Plant Providers. These state-level guidelines are put forth with an intention of creating an enabling environment for the Water Plant Providers and for the larger public good.

This document is prepared in accordance to the National Rural Drinking Water Program to provide guidance in building sustainable safe drinking Water Plants in the State of Andhra Pradesh. These guidelines are duly respectful of the

International and National water quality standards and should be read in conjunction with latest BIS standards on drinking water refer to IS 10500:2012

2 . The safe drinking Water Plants to be set up further in the state of Andhra Pradesh shall be built and operated in accordance with the guidelines prescribed in this document. The existing water plants shall also be brought under the purview of these guidelines.

GUIDELINES:

1. **Application:** Any Water Plant Provider interested in setting up of a Water Plant with an intention to provide safe drinking water to community at the government prescribed user charges is required to seek prior approval from the Department of RWS&S or those authorized by the Government of Andhra Pradesh from time to time.

2. **Use of Purification/ Filtration Technologies** : There are numerous commercially viable purification and filtration technologies available such as - Reverse Osmosis, Sand Filtration, Ultra Filtration, Electrolytic Defluoridation, Nano, Terafil, etc.. However, it is pertinent for any Water Plant Provider to scientifically choose a purification/filtration technology while setting up a Water Plant. Based on the quality of the source water the following technologies are recommended. The guidelines are provided considering only fluoride as contaminant, which is only identified contaminant in the state of Andhra Pradesh, in case any other contaminant is identified the technology for purifying the contaminant shall be adopted from the Handbook on Drinking Water treatment technologies 3 issued by the ministry of drinking water and sanitation, Government of India.

Water Plant Provider can propose the use of any other technology and process or combination of different technologies without compromising the quality of output water, which is more economical and rejects less quantity of water within permissible quality limits and can seek approval from the Department of RWS&S or any Agency authorized by the Government of Andhra Pradesh.

SLNo	Parameters of Source water	Technology/ies recommended
1)	TDS >500mg/l, Fluoride> 1.5 mg/l, Nitrate > 45 mg/l	Reverse Osmosis coupled with UV, UF, ACF and PSF or Nano Technology
2)	Fluoride > 1.5 mg/l and all other parameters within IS standards	Electrolytic Defluoridation or Ion Exchange Resin based purification or Nano Technology
3)	Iron> 0.3 mg/l and all other parameters within IS standards	Terafil Technology
4)	Turbidity > 2 NTU and all other parameters within IS standards	Ultra Filtration technology
* Disinfection shall be integral part of all the treatments		

The output water, which is served as safe drinking water to the public shall meet the quality parameters as set in IS 10500:2012

3. **Service Area:** In Hub and Spoke model, Water Plant Provider shall choose the Service Area that has at least a unit of 15 contiguous villages/ habitations or up to 30000 population. The habitations shall be geographically connected to form a Cluster for

accessibility. The production capacity shall be designed to meet the demand of the service area considered as at least 20 liters per day per household. The central treatment unit will supply treated water to 15-20 dispensing units located at convenient places to the public through stainless steel tractor mounted water tankers without direct human contact of treated water.

Should the Water Plant Provider wishes to choose a Service Area lesser than what is prescribed here, specific approval should be sought from the Department of RWS&S or any Agency authorized by the Government of Andhra Pradesh.

4. **Service Efficiency** : The Water Plant Provider shall provide uninterrupted access to Safe Drinking Water for all the Users on 12 hours in day basis with a downtime not exceeding 24 hours. Water Plant Provider should provision for enough storage of safe water equal to the requirement for a day in the Service Area.

5. **Operations Models:** Keeping in mind the varied Geological and Demographic conditions like the availability of source water, terrain and the population density the following Operation Models are recommended in setting up Water Plants.

Sl No	Geological and Demographic Condition	Operating Model	Description
01	Abundant source water, service area spread with the combination of urban and rural areas; and habitations are densely distributed	Hub & SpokeModel (Centralized Unit)	Centralized water processing and decentralized dispensing; the processed water shall be transported to the dispensing units in secure stainless steel tanks
02	Scarce source water, service area is completely rural area, habitations are wide spread	Individual Unit	Processing and dispensing together at an Individual Unit
03	Service area is completely rural area, average households per habitations are less than 100	Mobile Unit	Mobile processing unit with central coordination office, decentralized dispensing

6. **Disinfection Technology:** The processed water shall be exposed to proper disinfection method to retain "SAFETY" of the drinking water; The disinfection process shall be either Ultraviolet or ozone treatment, ensuring the safety till the point of dispensation to the User.

7. **Reject Water Handling:** The reject water from the processing shall be reused/ disposed as per the guidelines given below

Sl	Reject water Quality	Handling Technology or Process Recommended no
01	TDS < 2000 mg/l and Fluoride < 1.5 mg and all other parameters within limits	Mixing with non potable water in the ratio of 1: 10 or to be used for gardening etc. or any other suitable treatment process approved by FIRST PART.
02	TDS> 2000 mg/l and Fluoride> 1.5mg and all other parameters within limits	Evaporation or any other suitable treatment process approved by FIRST PART.
03	Fluoride>1.5mg and all other parameters within limits	The reject water shall be treated with defluoridation technique using Ion Exchange resins and

		discharge the result water as per the option 1 or 2 based on TDS levels.

8. **Transparency & Accountability**

The following data shall be recorded and updated on the online platform with access to the RWS & S and Public Health departments.

User Data:

Water consumption by the users in the Service Area need to be reported on a daily basis.

Water Data:

The quantity of source water, Product water, reject water, reused water on a daily basis at the Water Plant/s in the Service Area. The quality of the product water (Ph and TDS) at the Water Plant in the Service Area.

Energy Data:

The units of electricity consumed by the Water Plants should be communicated on a monthly basis.

9. **User Charges:** The Users shall be charged the user charges as approved by the state government, which shall be decided from time to time and communicated to the public.

10.**Open Information:** The following communication shall be displayed at the Water Plant in both regional and English languages.

The technical process used for treating the water User charges

User Instructions

Quality certifications, Test results

11.**Safety:** The Water Plant shall be secure enough to avoid any vandalizing efforts, and the processes shall be secure enough to avoid any cross contamination and access to unwarranted groups. The Food Safety measures undertaken by the Water Plant Provider shall be demonstrated during the audit process.

12.**Operation Staff:** Every Water Plant should be handled and serviced by at least one qualified or trained personnel in water treatment. The following minimum staff shall be deployed at each plant and its operational area:

1. *Water Plant Operator* : Responsible to handle water processing units in the given cluster and also for money management.
2. *Water Plant Maintenance Executive* : Responsible to handle all the repairs and maintenance of processing plants and dispensing units in the cluster and also handles the registration and recharge activities for the beneficiaries.
3. *Zone Manager* : Handles a group of clusters for the efficient operations in achieving the Preset goals of the zone.
4. *PRO* : builds the effective communication system to advocate the people to consume safe drinking water on zone basis.
5. *Distribution Staff* : supplies treated water to dispensing units.

13.**Sustainability:** The Water Plant Providers are encouraged to find social enterprise models (e.g. Door Delivery, Rural services, etc.) layered around the Water Plant to make it financially sustainable. However, the sustainability measures initiated by the Water Plant Provider should not compromise the core objective of providing safe drinking water to the public. The source water environmental sustainability lies with the RWS&S (in association with the concerned GP) Dept.

14.**Adherence:** Once the application is approved, the Water Plant Provider shall adhere to policy guidelines prescribed herein while setting up the Water Plant. Any deviation to the policy guidelines, the Department of RWS&S or any other Government authorized body shall initiate measures of compliance. Non-compliance by the Water Plant Provider after 3 notices will result in the Department of RWS&S or any other Government authorized body to take over the Water Plant in the interests of larger public service and safety.

Provisions of Support from GoAP

These state-level guidelines are put in place for the larger benefit of the public and sustainability of Water Plants and optimum utilization of resources committed by Water Plant Providers. Towards achieving the objective of providing safe drinking water through setting up of Water Plants the Government of Andhra Pradesh will encourage Water Plant Providers by extending support at various levels.

1. **Application Clearance:** Department of RWS&S or any other Government authorized body will set up a single window system to process and clear all applications by the Water Plant Providers within a stipulated period of not more than 45 days from the date of application that is complete in all aspects.
2. **Source Water:** Source water supply to the Water Plant will be done by the Department of RWS&S or any other Government authorized body from project cost.
3. **Subsidized Electricity:** Water Plants will be provided electricity at subsidized rates per unit as decided by the State Government
4. **Tax & Duty Exemption:** Water Plants Providers will be provided exemption of State level taxes and duties in the setting up and running of the Water Plants adhering to these guidelines.
5. **Financial Support:** Not exceeding 80% of the project cost of centralized model.
6. **Land Allocation:** All the approved Water Plant Providers will be assigned land freely on lease basis as detailed below.

Sl No	**Operating Model**	**Land Allocation**
01	Hub and Spoke Centralize d Unit	Processing Plant: 1000 sq yards - with ample space for tractor access. Dispensing Unit: 100 sq yards with ample open space for ease of access for Users.
02	Individual Unit	Upto 200 sq yards with ample open space for ease of access for Users.
03	Mobile Unit	500 sq yards for the central coordination point and 100 sq yards for the dispensing unit with ease of access for the Users
04	Reject handling	
	Direct connection for blending with utility water	No additional land is required.
	Defluoridation process	space to build a sump to store reject water generated per one day.
	Evaporation	space to build a sump to store reject water generate

.

DR.K.S.JAWAHAR REDDY
PRINCIPAL SECRETARY TO GOVERNMENT